REMARKS

Claims 1-15 remain pending in the captioned case. Reconsideration is respectfully requested in light of the following remarks.

Section 102(b) Rejections:

The Examiner rejected claims 1-8 under 35 U.S.C. § 102(b) as being anticipated by Tawarayama et al. (U.S. Patent 5,783,740) (hereinafter "Tawarayama"). Applicants respectfully traverse this rejection in light of the following remarks.

Tawarayama does not teach a sensor configured to selectively receive a first sample flow of a first chemical mixture from a first chemical vessel and to selectively receive a second sample flow of a second chemical mixture from a second chemical vessel, as recited in claim 1. Tawarayama teaches that a sample 202 is mixed with a decomposing reagent 203 in tube 103 by the first sample introduction unit 2 (col. 4, lines 45-59). The sample mixture is then heated and decomposed by thermostat 303 in pre-treatment unit 3 (col. 4, line 60 – col. 5, line 21). The sample mixture is then injected by the second sample introduction unit 4 into coloring unit 6 where it is mixed with coloring reagent 602 (col. 5, lines 22-52). The resultant sample mixture is then measured by detection unit 7 (col. 5, lines 53-67). Thus, Tawarayama teaches how a sample from a single source 202 is prepared for testing (by being mixed with a decomposing reagent, heated, and mixed with a coloring reagent) and then tested by a detection unit. The detection unit in Tawarayama only receives samples processed from this single source. Tawarayama does not teach a sensor configured to selectively receive a first sample flow of a first chemical mixture from a first chemical vessel and to selectively receive a second sample flow of a second chemical mixture from a second chemical vessel, as recited in claim 1. Therefore, claim 1 is clearly not anticipated by Tawarayama.

In response to this argument, the Examiner states on p. 2 of the Final Action that "Examiner is relying on 202 being the first sample, and the second sample is created in

the second sample introduction unit, the decomposed sample is introduced in the second sample loop, thus creating a second sample out of the first sample." The Examiner further states that "Examiner recognizes there is only a single sample source as the Applicant is pointing out, but **two sample flows** and **two separate samples** (first chemical mixing vessel (sample loop 204), second chemical mixing vessel (second sample loop 412)) are created by one sample source." (emphasis by Examiner). Tawarayama's system does create multiple sequential sample flows from a single sample vessel 202. However, the detection unit 7 in Tawarayama is not configured to selectively receive separate chemical mixture sample flows from separate chemical vessels. In Tawarayama, all sample flows are received by detection unit 7 from the second sample loop 4 via coloring unit 6. As the Examiner himself noted, in Tawarayama the sample flow at the second sample loop is created out of the sample flow from the first sample loop. Since the sample flow from the first sample loop turns into the sample flow from the second sample loop before it ever reaches the detection unit 7, in Tawarayama the detection unit 7 cannot selectively receive sample flows from both the first sample loop and the second sample loop.

Applicants remind the Examiner that anticipation requires that the identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). Applicants' invention as recited in claim 1 is clearly not anticipated by Tawarayama.

Furthermore, in regard to claim 6, Tawarayama does not teach a return distribution system, wherein the return distribution system is configured to transport purge fluids from the sensor to a drain, and to selectively transport the first sample flow from the sensor to the first chemical vessel or to the drain, and to selectively transport the second sample flow from the sensor to the second chemical vessel or to the drain. The Examiner responds to this argument on p. 3 of the Final Action by referring to the

following sentence from col. 6, lines 3-6 of Tawarayama: "The carrier solution 406 is fed by the pump 405 for cleaning the insides of the flow passage 5 and the flow cell of the detection unit 7, and thereafter the next sample is similarly measured." This teaching from Tawarayama clearly does not describe a return distribution system configured to **selectively** transport the sample flows **from the sensor** to either their respective chemical vessels or to the drain. Fig. 1 of Tawarayama illustrates a discharge for detection unit 7. However, the discharge for detection unit 7 does not selectively transport the sample flows from the sensor to their respective chemical vessels. Thus, claim 6 is clearly not anticipated by Tawarayama.

Furthermore, in regard to claim 7, Tawarayama does not teach a control system configured to receive a first sample attribute value and a second sample attribute value from the sensor, and wherein the control system comprises a display unit configured to display the first sample attribute value and the second sample attribute value. Tawarayama does not teach that its control unit 8 receives any values from the detection unit 7. Nor does Tawarayama teach that its control unit 8 comprises a display unit configured to display the first sample attribute value and the second sample attribute value. In response to these arguments, the Examiner states on p. 3 of the Final Action that it is inherent that use of a colorimetric reaction is a type of display of the results from the tests performed in Tawarayama. Applicants respectfully disagree that a display is inherent in Tawarayama's system. Tawarayama does not teach any displayed optical result. Tawarayama only teaches measurement of optical absorbance. There is no indication that this measurement is ever displayed. The results of the absorbance measurement could be used, for example, in a feedback control mechanism without ever displaying the results. Applicants remind the Examiner that "[i]nherent anticipation requires that the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002) (quoting *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)). It cannot be said that a display unit configured to display a first sample attribute value and a second sample attribute value is necessarily present in Tawarayama. Moreover, even if some sort of display was

inherent in Tawarayama, it would not necessarily be comprised within Tawarayama's control system.

Furthermore, in regard to claim 8, Tawarayama does not teach that the sensor is configured to measure a plurality of first sample attribute values for the first sample flow, and wherein the control system is configured to receive the plurality of first sample attribute values from the sensor and to filter the plurality of first sample attribute signals to produce a filtered first sample attribute value, and wherein the control system is configured to display the filtered first sample attribute value on a display unit. The control unit in Tawarayama does not produce a filtered sample attribute value from a plurality of attribute values for a first sample flow. Nor does the control unit in Tawarayama display any filtered attribute values on a display unit. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Claims 1-7 and 9-15 were rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent Application 0543544 (hereinafter "EP 544"). Applicants respectfully traverse this rejection in light of the following remarks.

EP 544 does not teach a sensor configured to selectively receive a first sample flow of a first chemical mixture from a first chemical vessel and to selectively receive a second sample flow of a second chemical mixture from a second chemical vessel, as recited in claim 1. EP 544 teaches an apparatus for sampling and diluting a liquid specimen from a single source (pipette 16). Although EP544 does mention several measurements that may be performed on diluted samples taken from pipette 16, EP 544 does not describe the configuration of any sensor that would perform these measurements. The focus of EP 544 is on the sampling and diluting device, not the measurement device(s). Thus, Applicants fail to see how the Examiner can rely on EP 544 to teach a sensor configured to selectively receive a first sample flow of a first chemical mixture from a first chemical vessel and to selectively receive a second sample flow of a second chemical mixture from a second chemical vessel, as recited in claim 1. The only teaching in EP 544 regarding how the samples are provided to the measurement

device(s) is that the samples are discharged into containers B1 – B5. Presumably the containers must then be taken to one or more measurement devices. Thus, EP 544 can hardly be said to teach a single sensor configured to **selectively** receive a first sample flow of a first chemical mixture from a first chemical vessel and to **selectively** receive a second sample flow of a second chemical mixture from a second chemical vessel.

In response to this argument, on p. 3 of the Final Action the Examiner states that the metering performed by the sampling valve described on p. 2, lines 18-19 of EP 544 can be equated to the sensor element of Applicants' claim 1. However, the metering performed by the sampling valve of EP 544 does not teach a sensor configured to measure a first sample attribute of a first sample flow and a second sample attribute of a second sample flow. The terms "metering" and "measuring quantity" are used in EP 544 to mean sampling a specific amount of fluid, not as a sensor configured to measure attributes of chemical mixtures. Referring to Fig. 1 of EP 544, the metering in EP 544 means nothing more than flowing a sample in direction A from pipette 16 to fill up passage P1. The movable element 12 is then moved up to transfer the "metered" sample to the other passage. This sampling valve action has nothing to do with a sensor configured to measure attributes of chemical mixtures. Moreover, the sampling valve of EP 544 receives samples only from pipette 16. Thus, the sampling valve of EP 544 clearly cannot be considered to selectively receive a first sample flow of a first chemical mixture from a first chemical vessel and to selectively receive a second sample flow of a second chemical mixture from a second chemical vessel, as is recited in Applicants' claim 1.

Again, Applicants remind the Examiner that anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants' invention as recited in claim 1 is clearly not anticipated by EP 544.

Furthermore, in regard to claim 6, EP 544 does not teach a return distribution system, wherein the return distribution system is configured to transport purge fluids from the sensor to a drain, and to selectively transport the first sample flow from the sensor to the first chemical vessel or to the drain, and to selectively transport the second sample flow from the sensor to the second chemical vessel or to the drain. Applicants cannot find any mention whatsoever of any type of a return distribution system in EP 544. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 7, EP 544 does not teach a control system configured to receive a first sample attribute value and a second sample attribute value from the sensor, and wherein the control system comprises a display unit configured to display the first sample attribute value and the second sample attribute value. The control means 28 of EP 544 does not receive any sample attribute values a sensor. Nor does EP 544 teach that its control means comprises a display unit configured to display the first sample attribute value and the second sample attribute value. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 9, EP 544 does not teach a control system that is configured to determine whether the first sample attribute value is outside of a first sample attribute value range bounded by a low first sample attribute value and a high first sample attribute value, and wherein said control system is configured to generate an out-of-tolerance signal upon determining that said first sample attribute value is outside of said first sample attribute value range. Applicants cannot find any teaching in EP 544 that its control means 28 generates an out-of-tolerance signal upon determining that the first sample attribute value is outside of a first sample attribute value range. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 10, EP 544 does not teach that the control system is further configured to determine whether the first sample attribute value is outside of a

secondary first sample attribute value range bounded by a secondary low first sample attribute value and a secondary high first sample attribute value, the secondary first sample attribute value range being larger than said primary first sample attribute value range. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Further in regard to claim 10, EP 544 does not teach a processing tool configured to use said first chemical mixture in processing a semiconductor substrate. EP 544 obviously has nothing to do with processing a semiconductor substrate. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Further in regard to claim 10, EP 544 does not teach that upon a determination that the first sample attribute value is outside of a secondary first sample attribute value range, the control system is configured to transmit an inhibit signal to the processing tool for the first chemical vessel, and wherein the processing tool is configured to refrain from using the first chemical mixture in processing upon receipt of the inhibit signal for the first chemical vessel. Nothing in EP 544 has any relevance to these limitations of claim 10. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 11, EP 544 does not teach a control system configured to receive the first sample attribute value and the second sample attribute value from the sensor, wherein the control system is configured to input the first sample attribute value into a first attribute control algorithm to calculate a first attribute control output, and wherein the control system is further configured to direct the adjusting of a first bulk attribute value for the first chemical mixture according to the first attribute control output. The control means in EP 544 performs none of this functionality. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 12, EP 544 does not teach that the control system is configured to determine a first attribute error value from the first sample attribute value and a first attribute setpoint value, and wherein the first attribute control output comprises

a first attribute control response time based on the first sample attribute value, and wherein if the first attribute error value is less than a first attribute dead band value, the control system is configured to set the first attribute control response time to zero, and wherein if the first attribute error value is greater than a first attribute dead band value, the control system is configured to calculate the first attribute control response time from the first attribute error value. The control means in EP 544 performs none of this functionality. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 13, EP 544 does not teach that the control system is configured to direct the transporting of a first chemical supply flow from a first chemical supply to the first chemical vessel to increase the first chemical concentration within the first chemical mixture. The control means in EP 544 performs none of this functionality. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 14, EP 544 does not teach that the control system is configured to direct the transporting of a second chemical supply flow from a second chemical supply to the first chemical vessel to decrease the first chemical concentration within the first chemical mixture. The control means in EP 544 performs none of this functionality. **Applicants note that the Examiner has provided no rebuttal of this argument.**

Furthermore, in regard to claim 15, EP 544 does not teach that the control system is configured to direct the transporting of a first chemical supply flow from the first chemical supply to the second chemical vessel to increase the first chemical concentration within the second chemical mixture. The control means in EP 544 performs none of this functionality. **Applicants note that the Examiner has provided no rebuttal of this argument.**

CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5500-48700/RCK.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Petition for Extension of Time

☐ Notice of Change of Address

☐ Fee Authorization Form authorizing a deposit account debit in the amount of $ for fees ( ).

☒ Notice of Appeal

Respectfully submitted,

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